

CENTRAL OPERATOR MANUAL

SINGER POINT-of-SALE SYSTEM, RELEASE 4.1



SYSTEM TEN COMPUTER BY **SINGER**

SINGER
BUSINESS MACHINES

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SINGER
BUSINESS MACHINES

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Section 1
SYSTEM MONITOR

OVERLAY AREAS

RESIDENT MONITOR FUNCTIONS

BASIC MONITOR FUNCTIONS

EXTENDED MONITOR FUNCTIONS

COMMUNICATIONS-INITIATED FUNCTIONS

SYSTEM MONITOR

The Resident Monitor resides in partition zero, and is primarily responsible for disposition of messages. (See Figure 1-1). During a monitor substitution, message disposition is performed from a remote partition. During alternate message handling, message disposition is performed in partition zero when the workstation is off-line.

The basic resident Monitor communicates with the operator through service request switch toggling (operator-initiated), and responds to information placed in control block fields and tables by programs (program-initiated). The basic Resident Monitor can remove itself from partition zero and place a substitute monitor (MONSUB) in a remote partition to service the message queue (MSGQ). The basic resident Monitor interfaces with occupants currently processing to determine the availability of resources required to execute a request for service. Monitor functions are described as basic or non-resident, extended, and as SCA communication functions. The monitor may function with the optional SCA communication-initiated monitor functions (CDUMPR, EXT400 and EXT720). Basic and extended monitor functions are operator-initiated. Communication-initiated functions are requested by program call.

The Resident Monitor may be loaded or reloaded individually, as a portion of an up-and-running operating system, or by an operator service request switch toggle, or by a request to load by a program call.

OVERLAY AREAS

OVRLY1 - Overlay area 1 Monitor Partition core locations 200 through 1000 (normally reserved for the DMF locator and various resident tables).

OVRLY2 - Overlay area 2 Monitor Partition core locations 1600 through 2000.

MEXTOV - Overlay area 3 Monitor Partition core locations 2000 through the extreme limit of the partition. (See Figure 1-2, Monitor Partition Core Map).

SYSTEM MONITOR

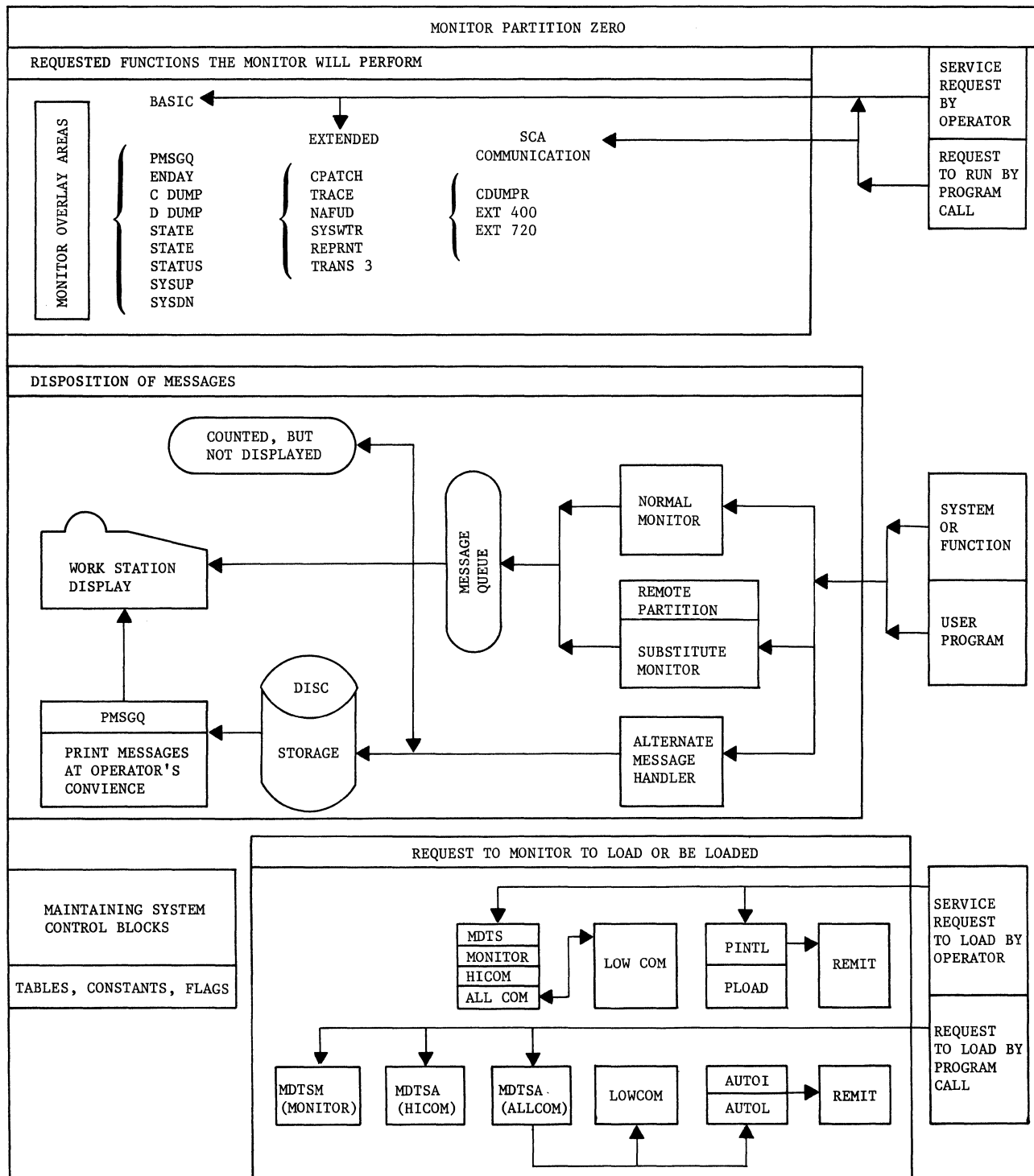


FIGURE 1-1. SYSTEM MONITOR FUNCTION PICTURE

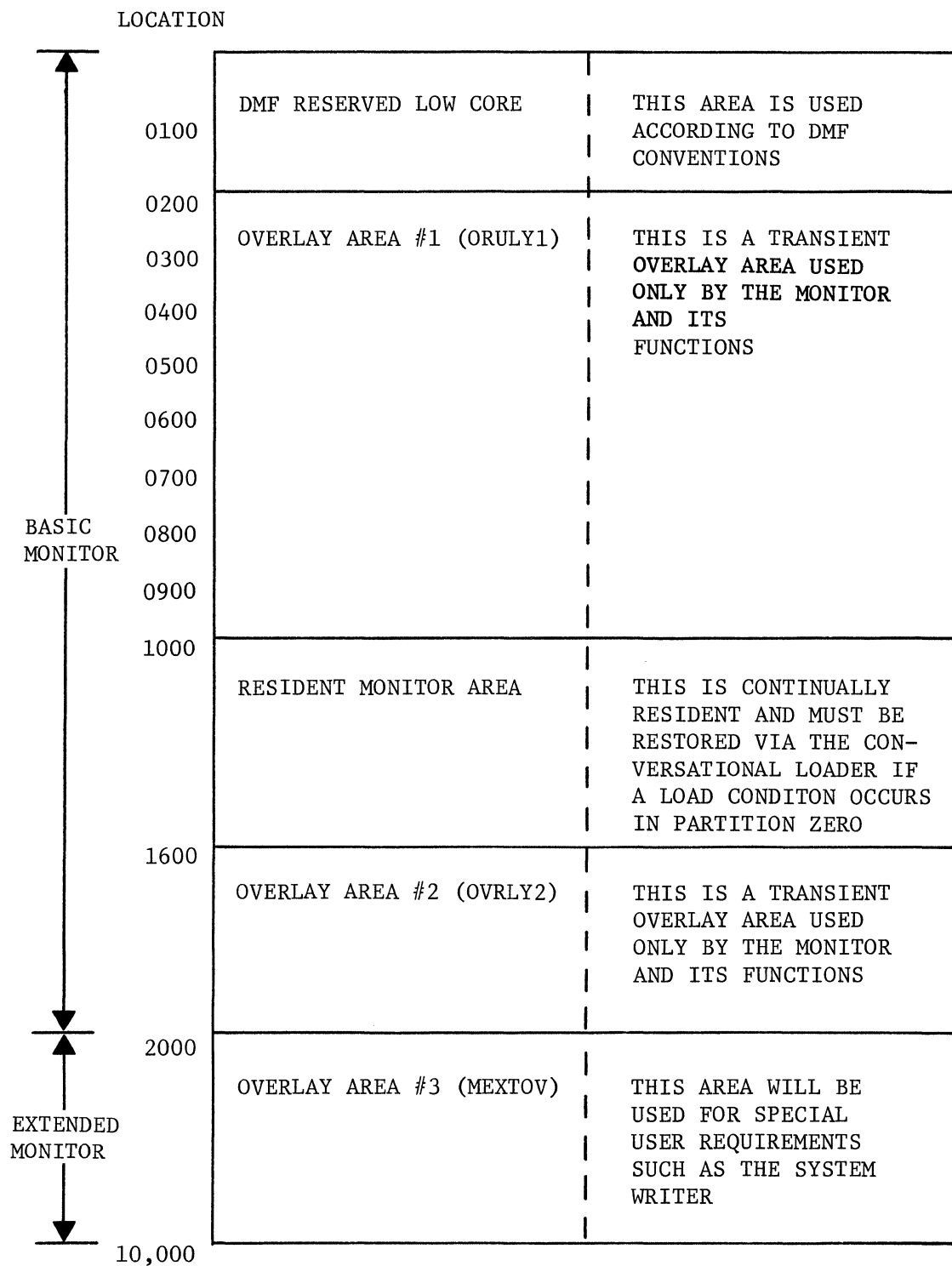


FIGURE 1-2. MONITOR PARTITION CORE MAP

Common Overlay Areas

ONOVLY - Common On-Line Common Overlay Area is available to monitor functions use as required. It becomes available only by following the system procedures for shared resources. The macro FCYCNT is used to establish availability and claim this area. (See Figure 1-3, Common Core Map).

Program Location In Core Memory

Monitor functions reside in transient overlay areas in Partition zero and Common. Extended Monitor functions utilize these same transient overlay areas and any Monitor Partition memory above 2000.

Monitor (Basic) Operator-Initiated Functions May Be Located Into:

OURLY2,

ONOVLY.

Monitor (Extended) Operator-Initiated Functions May Be Located Into:

OURLY2,

ONOVLY,

MEXTOV.

RESIDENT MONITOR FUNCTION

MONITR - Message and request management and control.

MONSUB - Message management only.

MSGALT - Alternate message handler.

NOTE: MSGALT performs a specialized function for the Monitor.

LOCATION

0000	P, B, AND A REGISTERS (300)
300	COMMON CORE CONVENTIONS (700)
1000	VERSION 4.1 CONTROL BLOCKS
	DISCIO TATTLE RE-ENTRANT SHARED TSTQUE ROUTINES (1200) TRMCTL
2200	OVERLAY AREA 1 (2400) (ONOVLY)
4600	TERMINAL SERVICING ROUTINES (2500) HICOM
7100	POS TRANSACTION QUEUE AREA (900)
8000	

FIGURE 1-3. COMMON CORE MAP

MONITR

The SIPOS*4.1 System has many operations which can occur in several segments of core. Message reporting is the most basic operation and must be performed in an orderly manner through the monitor partition. The basic Resident Monitor, in addition, manages shared resources located in low common core. It can also load itself, as well as provide loading request for service programs (either program or operator-initiated) and oversee program execution to prevent interference of system operation. The sequence of operations is as follows:

Partition zero must be available. Common core conventions and control blocks are required. Calls to the operator are passed by messages at the workstation. Automatic program remote request calls may occur.

Request calls to load are placed in the Common Request Table. The MONITR program name is placed in the table following the Common Request Table. Common Core memory is called "Common" and Partition Core memory is called "Partition". The use of Common implies an interaction with remote partitions. Partition zero implies monitor functions including an interaction between resident monitor functions, and basic, extended, and communication-initiated functions.

Major operations provided by the Monitor include (1) the proper disposal of remote partition messages and (2) the acknowledgement of a request to load and execute functions. Monitor functions may be requested by the operator, by another Monitor function, or by a remote partition occupant.

Resident Monitor Functions

Remote partitions pass messages to the Monitor by using a common message area and following a convenient message format. The availability of the common message area is set by the test queue routine in Common. The message is then formatted according to the following options:

'Live' MESSAGE: Ld111ttt...t

L = Signals a 'live' message

d = Device to receive message

111 = Variable text length

ttt...t = Variable text, not to exceed 45 characters

'Disc' Message: Dd11ls)ffffffttt...t

First D = The letter "D" to signal a message requiring text to be appended from disc.

Second d = Device to receive message

111 = Length of variable text

s) = Message severity code following by a right parenthesis

ttt...t = Variable text, not to exceed 45 characters

ffffff = File name in which the message to be appended to the variable text is located. file is created as a single sector file in a pool named "MESSGE" with the following format:

M=11mmm...m

M= = The characters "M=" to identify a text append report

11 = Append message length

mmm...m = Append message not to exceed 92 characters

Monitor Loading

The monitor module is loaded indirectly. This provides loading options to meet any loading need without duplicating modules. Each anticipated loading need requires only a single preliminary program to build a loading option table. This preliminary program then calls the Monitor module for proper execution of the loading options. (See Section 2 System Loading).

The combined lengths of the variable text and the appended message should not exceed the logical record length of the IOC device, specified to receive the message, and cannot exceed 132 characters.

Basic, Extended and Communications-Initiated Monitor Functions

Monitor functions are performed in Partition zero in conjunction with the resident monitor functions. For example, a disc to printer function allows a remote partition message to be printed on the console before continuing its work on the printer. For the general user, basic monitor functions operate within the first 2000 positions of Partition zero core memory. Extended monitor functions may be developed to operate above this limit for users with more than 2K available to Partition zero. The

only difference between basic monitor functions and extended monitor functions is the amount and location of available core.

Basic and extended monitor function selection is operator-initiated by securing a service request on an attached console. Communications-initiated functions are effected by a remote partition placing the requested function in the common request area, and substituting a load request for Partition Zero in the Common Request table.

The ENDAY request normally terminates the "MONITR" function.

MONSUB

If only message service is required, a substitute monitor providing that service may be relocated to another partition core. The basic resident monitor partition may then be used as desired. The substitute monitor services the message queue by writing messages to a special disc file rather than the workstation. The following is a description of the sequence of operations:

A partition other than zero must be available for use. This function request may be called automatically by program, or by the operator in response to a workstation message.

The operator response is MONSUB (no parameters) or placing a load request in the Common Request Table and the MONSUB program name in the following table.

The Monitor substitute module loads and executes a user program in Partition Zero as soon as the substitute partition is functioning.

Monitor Cancellation and Returns

Monitor cancellation is not allowed if remote partitions do not accept the substitute responsibility.

When the Monitor returns, the substitute monitor passes a message through MSGQ indicating the conclusion of its operation as a substitute and its return to normal activity. The message requests the loading of a special monitor function to print the recorded messages when convenient for the operator.

Message Queue

When the remote partition is functioning as a substitute monitor, it is not available for any other function. The handling of the

message queue is the only monitor function performed by the substitute monitor.

Overlays

The coding combines the logic required for Partition zero for the substitute selection with the logic to be executed by the remote partition itself. Overlays are used by Partition zero for substitute selection and user program loading. The substitute monitor employs overlays for its preliminary and closing logic.

After completing the user program, a load request of the monitor is made by placing the load call in the Common Request Table, the monitor program name in the table following it, and exiting into the DMF Conversational Loader.

Function Usage

This module is required if the user wants to replace the Partition Zero Monitor with another program after the ENDAY module function.

MSGALT

The workstation (the communication link between the monitor and the operator) could change to an off-line state. The monitor sensing this condition must automatically call an alternate message handling program, while this condition exists. This servicing is done by recording MSGQ messages on the disc. Messages are later printed using the monitor function, "PMSGQ". No basic extended or communication-initiated function is allowed during the operation of "MSGALT". The following is a description of the sequence of operations;

The monitor must be present. Overlay areas of monitor partition zero are required.

This function request is called automatically by the monitor.

The call to perform the function is initiated by placing a load request in the Common Request Table and the MSGALT program name in the subsequent table.

Function

MSGALT handles only messages passed through message queue. It does not handle workstation keyboard locks or failures occurring during the writing of a message. In both of these cases, control remains

on the I/O instruction, and it is not possible to detect the condition under program control.

Message Queue

Messages are stored two per sector in MSGQ image. An accumulation counter records the number of messages in the file. The message queue is kept free at all times. Accordingly, under certain conditions such as a full file, messages may have been ignored. A count of all ignored messages is maintained and reported for each run of "MSGALT". The file is maintained on a wrap-around basis allowing maximum utilization before a full file. The file is purged automatically during the printing of the messages by file pointers and counters which are maintained in the pool label for "MSGQPL" for each reference.

Program-Initiated

The program automatically terminates after finding the workstation accessible and returns to normal monitoring.

Function Usage

This module is program-initiated by the Monitor if the workstation is inaccessible when it is preparing a message for printing. If the operator wishes to perform maintenance on the workstation, it must be powered down and the device disconnected. The workstation is returned to the system by powering up and placing it in an on-line mode.

BASIC MONITOR FUNCTIONS

SYSUP	Open Transaction File
STATE	Queries Active Terminals and May Print Messages
STATUS	Lists Codes and Indicators Providing Current System Portrait
SYSDN	Closes Transaction File Creating New Day Pointers
PMSGQ	Retrieves Messages Saved during Absence of System Monitor
CDUMP	Snap Shot Memory Display
DDUMP	Selects sectors from Disc to any Print Device
ENDAY	Closes Transaction File With Creation of New Day Pointers

SYSUP

Verifies that the Transaction File is not open. The file is opened on the basis of the type of close previously performed. Closing was either system down "SYSDN" or end of day "ENDAY". The Terminal Servicing Routine is called to load into high common memory. The following is a discussion of the sequence of operations:

The monitor must be present. Overlay Area Two is used.

The operator toggles the service request switch to ask for service.

The operator response is SYSUP.

The file is readied for terminal activity relative to system status sector data currently in MDTs Reserved Common Core by High Common routines.

Termination occurs when the function is completed. No termination message is given.

Function Usage

This operator function is used to reestablish the Transaction File open condition and the servicing of a P.O.S. Terminal Request after a temporary down condition. The "SYSUP" service request results in the "Transaction File is not closed" message display.

STATE

Status circumstances messages are provided regarding the Terminal Servicing, Controlling, Common Control Block, Terminal Partition, and the opened or closed condition of the MDTs terminals of each terminal partition established. If terminal servicing activity is high, a bypassed message for this function is issued. The following is a description of the sequence of operations:

Monitor must be present. On-line overlay area in common must be available. Overlay Area Two is used.

The operator toggles the service request switch to request service.

The operator response is STATE.

Messages passed through the message queue during the operation of the state function are printed immediately. Other system messages may, therefore, be interspersed with the STATE messages.

The operator may cancel the function prior to completion by the service request switch toggle. The completion of the function message is indicated.

Function Usage

Interrogation of partition assignment, partition activity, individual MDTS status, or core storage data.

STATUS

A table of various common memory fields will be displayed with their internal labels as identifiers. A heading will also be printed to help locate a particular character in a status field. The specific status for the Common Status Table, Common Request Table, Contention Table, Program Load, Line Status, Next Picture Day and Disc Address, Current Picture receiving data, and the Current Logical Day for recording P.O.S. terminal transaction data is indicated. The following is a description of the sequence of operations:

The monitor must be present. Overlay Area Two is used.

The operator toggles the service request switch to request service.

The operator response is STATUS.

No special calls or abnormal conditions occur.

The operator may cancel the function prior to completion by the service request switch toggle.

Function Usage

Use this function to obtain a software diagnostics status report on the MDTS system.

SYSDN

The status circumstance of the Terminal Servicing, Controller, Common Control Block, and individual MDTS terminals is recorded. The Transaction File and the current pointers are closed and exit is made to the monitor. The SYSDN function is automatically performed if all terminals are found to be closed. The following is a discussion of the sequence of operations:

The monitor must be present. The on-line overlay area of common must be available. Overlay Area Two is used.

The operator toggles the service request switch to request service.

The operator response is SYSDN.

The STATE function is called. Messages are passed through the message queue so it is possible to have other system messages interspersed.

The operator may cancel the function prior to completion by the service request switch toggle. The operator decision may terminate the function at the end of a "session" by data entry. A termination completion message is given.

Function Usage

Normally, SYSDN would be performed when terminal servicing functions need to be temporarily interrupted.

PMSGQ

Messages incurred during the absence of the System Monitor are retrieved from disc. A single disc pool, MSGQPL, is accessed. The messages were written to disc from MSGQ by the substitute monitor. The following is a description of the sequence of operations:

The monitor must be present. Overlay Area One in partition contains the locator with the monitor's error recovery. The on-line overlay area of common contains the logic to access the disc file and select the appropriate paths for disposal of the messages. Overlay Area Two is used.

The operator toggles the service request switch to request service.

The operator response is PMSGQ.

The MSGQPL file is purged (flagged empty) at the beginning of operation of each substitute monitor, regardless of its actual status. Reprint capability is not provided for messages logged in MSGQPL.

Through the service request toggle, the operator may determine how many messages on disc remain to be printed. He may terminate printing with an "N" response, or continue with a "Y" response.

Function Usage

A request to utilize partition zero for a program function service replacing the monitor requires an alternate method of providing message logging.

CDUMP

Segments of partition or common memory may be displayed. Memory display is selected by entering the following parameters in any order. The entry is terminated with the 'ENTER' key. Re-entry of parameters is allowed with the 'ERROR' key. Termination of the entire display selection phase is signalled with a 'control' key. The following is a description of the sequence of operations:

The monitor must be present. The on-line overlay area of common is required. Overlay Area Two is used.

Disc Requirements

A disc is required during the operation of CDUMP, and a load state results if it is rendered unavailable. The device assigned to SYSLST is selected as the output device. It is imperative that this device be correct for each installation.

The I/O reset variant of the inhibit switch instruction is used by CDUMP. This causes a fault on any I/O activity in the system at the time it is issued.

The on-line overlay area of Common is used by this version of CDUMP.

The operator toggles the service request switch to request service.

The operator response is:

```
CDUMP(ENT) { D=nn } (ENT) Snn(ENT) Enn(ENT) RSnnnn(ENT) H
              (KEY) { D=C } (KEY)      (KEY)      (KEY)      (KEY)
```

Parameters

Dnn	This parameter is used to select the area of
DC	memory to be displayed. If a Remote Partition is
	selected, its two digit number must immediately
	follow the letter 'D'. If Common is selected, the
	letter 'D' must be immediately followed by the
	letter 'C'. 'D' defaults to Partition Zero.

- Snn This parameter is used to select a core location starting address. It must be followed by two digits representing the thousands and hundreds digits of the desired starting point. 'S' defaults to location 0000.
- Enn This parameter is used to select an ending address for the display. It must be followed by two digits representing the thousands and hundreds digits of the exclusive end desired. For example, 'F80' displays up to, but not including, location 8000 (or 800P is in Common). 'E' defaults to the full size of the Remote Partition. The size of partition zero is assigned for Common.
- RSnnnn This parameter is used to select a specific address to restart a remote partition. The four characters following the 'R'; are used as the restart address without editing. Default for the 'R' option is the address at which the Remote Partition is interrupted for the display.
- PRv This parameter is used to designate the device to print the selected dump. This parameter is optional. If it is omitted, the default is SYSLST (device assigned during system initialization).
- v = Device number to receive the dump.
- H This parameter is used to signal the end of displays and cause a return to the Monitor.

Erroneous Entries

Erroneous entries detected during the display selection phase are reported and rejected. Erroneous entries which pass to the dumping phase, default. For example, an "E40" and the dump proceeds on that basis. Selection of a non-existent partition is ignored, and return is made to the beginning of the routine.

No calls, abnormal conditions, or unusual conditions.

The operator may cancel the function prior to completion by the service request switch toggle.

A service request during the operation of the CDUMP program causes an immediate restoration of the Remote Partition to its restart branch and the return of Partition Zero to its monitoring functions.

Function Usage

Visual validation or analysis as required. Usually under diagnostic circumstances.

DDUMP

Selected sectors from disc may be displayed on any print device.

The monitor must be present. The on-line overlay area is required. Overlay Area Two is used.

The operator toggles service request switch to ask for service.

The operator response is:

DDUMP(ENT)	{ Lpoolname.filename Lnnnnnn Pbbbbbb Lpoolname.	(ENT)	{ Eeeeeee Cddd EH PRv	(ENT)[H]
(KEY)		(KEY)		(KEY)

Parameters

Lpoolname.filename

Lnnnnnn

Lpoolname. Use this (Linked File Dump) parameter to signal the dump of a linked file. This parameter is required.
n = beginning sector address.

EH

Cddd Use this (Linked File Dump) parameter to signal the dump of a linked file. This parameter is optional.
If it is omitted, the default is EH.

EH = End on Hard end of file.

d = Number of sectors to be dumped. Maximum: 999.

Pbbbbbb Use this (Physical Sectors Dump) parameter to signal the dump of a physical sector. This parameter is required.

Eeeeeee

Cddd Use this (Physical Sectors Dump) parameter to signal the dump of a physical sector. This parameter is required.

e = ending sector address

d = number of sectors to be dumped. Maximum: 999.

PRv Use this parameter to designate the device to print the selected dump. This parameter is optional. If it is omitted, the default is SYSLSST (device assigned during system initialization).

v = Device number to receive the dump.

H Use this parameter to cancel any previously entered parameters. This parameter is optional.

No calls or abnormal conditions should occur during the execution of this function.

The operator may cancel the function prior to completion by the service switch toggle. See parameter "H" above.

Function Usage

Visual validation or analysis as required. Usually under diagnostic circumstances.

ENDAY

The status circumstance of the Terminal Servicing, Controller, Common Control Block, and individual MDTs terminals is recorded. The Transaction File is closed and the "CURPIC" field is readied for a new picture and new day. The following is a description of the sequence of operations:

The monitor must be present.

The on-line overlay area of Common must be available.

Overlay Area Two is used.

The operator toggles the service request switch to request service.

Operator response is "ENDAY".

The "STATE" function is called.

Messages passed through the message queue during the operation of the ENDAY function are printed immediately so it is possible to have other system messages interspersed with the ENDAY messages.

The ENDAY function is automatically performed if all terminals are found to be closed. The operator is allowed to bypass the ENDAY logic if open terminals are encountered.

If the current picture is empty, the operator is notified. New pointers are not created. A SYSDN condition results.

If the next picture is not available to become a new picture. The operator is notified. New pointers are not created. A SYSDN condition results.

When the conditions described in the last two steps are encountered, The current pointers remain valid and in force when the file is reopened by loading the terminal servicing routines.

The operator may cancel the function prior to completion by the service switch toggle.

Function Usage

When collection of MDTs information has been completed at the end of the day, terminal servicing must be stopped, the transaction file must be closed, and preparation for the next day must be made.

EXTENDED MONITOR FUNCTION

CPATCH In accessible remote partition memory modification and or display.

TRACE File-Field sector location, modification and display.

NAFUD Negative credit pool update.

SYSWTR Print image disc records are printed on work station or line printer.

REPRNT Selection of all or segment of file foreprinting. Device is selected by print record format.

TRANS3 Record transactions on magnetic tape.

CPATCH

This module is used to selectively display and/or modify memory in otherwise inaccessible remote partitions. The following is a description of the sequence of operations:

The monitor must be present.

The program is a version of the CPATCH Utility Program.

The on-line common overlay area must be available. Overlay Area Two is used.

The operator toggles the service request switch to request service.

The operator response is:

```
CPATCH(ENT)PNxx(ENT)Tl1aaaadd...d(ENT)G11aaaa(ENT)RSaaaa(ENT)H
      (KEY)   (KEY)                (KEY)      (KEY)      (KEY)
```

Parameters

PNxx This (PATCH) parameter is used to signal the area of System Ten core to be patched. The one or two digit parameter supplied with the code "PN" is the partition number. This parameter defaults to partition zero or common core, or to the most recently specified Remote Partition.

Example P2.

Tl1aaaadd...d This (TRANSFER) parameter is used to signal the data to be transferred to System Ten core. The first two digits in the parameter string supplied with the code "T" is the data string length. Up to 100 characters are supplied with the digits "00" signalling 100. The next four characters are the exact System Ten core address of the area to receive the data string. If Common Core is to be modified, proper zone bits must be supplied by the operator. The remaining parameter characters are the data string to be placed in the System Ten core area specified. A characters string shorter than the length field is right filled with blanks.

G11aaa The (GET) parameter is used to allow examination of particular core area by displaying it on the console. The "11aaaa" parameters supplied with the code "G" have the same meaning and restrictions as the code "T" except that the data is displayed instead of modified.

Example: G06030P

RSaaa The (RESTART) parameter is used to allow the operator to interrupt the normal processing of a Remote Partition and start it at the address supplied. The four character parameter supplied with the code "RS" is the address desired for the

Restart. The partition resumes operation at the point interrupted by "CPATCH". Restart requests for partition zero are ignored. Restart addresses are not carried forward from one patch to the next as are other parameters.

Example: R130P

H The (HALT) parameter is used to signal the end of a "CPATCH" session and a desire to return to the normal monitor.

There will be no special calls or non-normal conditions.

The operator may terminate by using the Halt parameter at the end of a "CPATCH" sessions. Service request toggles are not honored. No termination message is provided.

Function Usage

An ACU check points to general area of core failure. CPATCH is used for diagnostic display of core contents.

TRACE

Linked sequential or physical sequential files may have sectors located and modified. Link files are located by (pool name-file name). Physical files are located by address. A facility to halt on an operator-specified field within the specified pool-file is provided. Once located, the operator easily reads, modifies, and displays the sectors as desired. A variety of file ending, search ending, and printing parameters are available to the operator for the selection and modification actions. There are basic parameters that must be entered to get the location and display action. However, a variation next location and display may be effected by entering that variation parameter information. The following is a description of the sequence of operations:

The monitor must be present.

Overlay Area Three is used.

The operator toggles the service request switch to request service.

The operator response is:

TRACE(ENT)	{	Lpoolname.filename	}	(ENT)	{	EH	}	(ENT)H
(KEY)		Paddress		(KEY)		ES		(KEY)
		Raddress				Eaddress		
		Waddress				EM		
						EF		
						EC11ddttt...t		
						M11ddttt...t		
						T11ddttt...t		
						PAdevice		
						PSDEVICE		
						RE		

Parameters

Lpoolname.filename Use this (Search LINKED) parameter to signal the search of a linked file. The pool and file are specified in the usual DMF manner. Omission of the pool name defaults to SYSPOL.

Example: LEMPLYE.DEPT89

This signals a search of a file named DEPT89 in a pool named MEPLYE.

Example: LSYSØØØ1

This signals a search of a file in SYSPOL names SYSØØØ1.

The file searched may be either a physical sequential or a DMF linked sequential file. One or the other must be initially specified, but once specified, any number of searches and manipulations may occur for the same file.

Paddress Use this (Search Physical) parameter to signal a search of a physical file. The physical address at which the file begins is specified by a six digit parameter.

Example: PØ15ØØØØ

This signals a search of a physical sequential file beginning at address Ø15ØØØØ.

EH The (End on Hard End of File) parameter is used to specify a file ending when the DMF hard end of file field (/////)) appears in the forelink. All linked files default to this type of ending if no other is specified. No additional parameters are entered.

The file ending may be specified in four ways. All four are allowable for linked files. "End on Address" and "End on a Character Field", are allowable for physical files.

ES The (End on Soft End of File) parameter is used to specify a file ending when the DMF soft end of file, a zone bit in the units position of the forelink, is encountered. No additional parameters are entered.

Eaddress The (End on Soft End of File) PARAMETER IS USED TO SPECIFY A FILE ending at the address specified. This is allowable for DMF files (an additional default test for a hard end of file will be made), but is applicable for most physical files.

Example: E0170000

This parameter signals an ending at the physical address 0170000.

EC11dddttt...t The (End of Character Field) parameter is used to specify an ending when the key character field included with this option is encountered. The length, displacement, and character parameters entered with this option are according to key field specification.

The search for the matching field includes the sector containing the ending field.

Example: EC0100S

This parameter signals an end of file when the first character of a sector is the letter "S".

EM The (End of Match) parameter is used to terminate the search on the first match encountered.

The program defaults to an end of file condition to end the search, or the operator signals an end of search on the first match.

EF The (End on File) parameter is used to allow the search to continue to the end of file reporting each match as specified.

PAdevice The (Print Address) parameter is used to print the address only on the device specified.

Example: PA4

This parameter signals punching the address only on the card punch.

NOTE: No additional parameters are required. The file specifications and search specifications are held residually and need not be reentered unless they need to be changed.

The program prints (or punches) each match encountered. It prints the address only, unless the address and sector are requested.

PSdevice The (Print SECTOR) parameter is used to print the address and sector on the device specified.

Omission of the device defaults to console device zero or to the most recently entered device.

Example: PS2

This parameter signals printing the address and sector on the line printer.

Raddress The (Read Sector) parameter is used to read the sector specified by the six digit address included with the option.

Example: R0000100

This parameter reads and displays sector 00001000.

Sectors may be selectively read and written without a search. Omission of the address defaults to the most recently accessed sectors. If a search were specified to end on a match, the sector containing the match would be the most recently accessed sector.

Waddress The (Write Sector) parameter is used to write the sector specified by the six digit address included with the option.

Example: W

This parameter writes the contents of the buffer (probably modified by a "T" command) to the most recently accessed sector.

Ml1ddttt...t The (Match Field) parameter is used to specify the matching key field specification. It must be specified initially. This is the key field the program is searching for to report matches.

Example: M0305END

Tl1ddttt...t The (Transfer Field) parameter is used to modify the internal disc buffer. The T option modifies the data currently in core only. A subsequent W must be issued to modify the sector on disc.

Example: Tl032P0PP0000000

Key field specification options signal the matching field for the search, the modifying fields used prior to a W option, and the ending character specification.

H The (Halt) parameter to signal a termination of the search.

After parameters have been entered, any control key will terminate the search.

RE The (Restart Entries) parameter is used to allow the entry of new parameters. Only an "H", "RE" or Control Key entry is allowable following a service request interrupt. This control is used after a service request interrupt.

Erroneous Entries

All operator entries are made with a one or two character mnemonic followed by the desired parameters. All messages to the operator are clear and self-explanatory. Detection of an error returns the program to the centrally located read. All entries are terminated with the ENTER key (or ERROR key if a mistake is made).

There are special calls nor abnormal conditions.

The operator may terminate by using the (Halt) parameter at the end of a "Trace" session. A remote partition load request can cause cancellation of this function.

Function Usage

This function is used in debugging to change object coding on disc, by providing the ability to get at disc sector.

NAFUD

The Negative Credit Number Pool may have file maintenance performed for update, change or add phases. After choosing a phase, the operator enters the credit account number including leading zeros followed by the display code. This utility performs the update requested and continues the same update phase until EOP (End of Phase) or EOJ (End of Job) is entered on the console. After entering EOP, the operator may request another phase by entering UPDATE, CHANGE, or DELETE. At completion of job enter EOJ. The following is a description of the sequence of operations.

The monitor must be present. Overlay Area Three is used.

The operator toggles the service request switch to request service.

The operator response is:

NAFUD(ENT)	{	ADD	}	(ENT)	credit no.	display code	(ENT)	[EOP]	(ENT)	H
(KEY)	{	CHANGE	}	(KEY)			(KEY)		(KEY)	
	{	DELETE	}							

Parameters

ADD

CHANGE

DELETE The parameter is used to specify an add, change or deletion phase to the Negative Credit Pool.

credit account number This parameter is used to specify the 13 digit credit account number.

display code This parameter is used to specify the single digit display code required for each credit account number.

EOP This parameter is used to specify the end of phase for that credit account number(s) and display code(s).

H This parameter is used to specify a halt to the Negative Credit Pool Update.

There will be no special calls nor abnormal conditions.

An automatic termination will result if the MDTs system status sector 1 cannot be written.

The operator may terminate by using the (HALT) parameter at the end of "NAFUD" session.

A termination message is given.

Function Usage

Account numbers may require change of deletion. New numbers may be added to the list.

SYSWTR

This module is used is to retrieve print image records from disc for printing on a Line Printer or Workstation.
There are three System Writer Programs:

A program to reprint all or part of a disc resident print file.

A program to expand a print image from a condensed disc file.

A program to expand a print image from the condensed SCA common bufer.

The following is a description of the sequence of operations:

The monitor must be present. Overlay Area Three is used.

The operator toggles the service request switch to request service.

The operator response is "SYSWTR".

This program is required if the module "FUN410" is used.
This program calls the module "REPRNT".

Create Disc Files on System Ten

Create the disc file within the allotted area, using disc formats as shown in the file layouts. After the file is created, put the address of the last sector to be reprinted in the field LAST LOGICAL. Test the appropriate positions in the Contention Table

(defined in common core fields and flag description) for a blank. A blank indicates the availability of the WRTCTL file. When the WRRCTL file is available, change the flag in common and the partition to nonblank (in use), and put the address of the HEADER Sector of the print file and the priority in the first available field. Write the record to disc and return the Contention Table to blank (available). At this time, SYSWTR is requested from the console.

System File

To use the System File (SYSFLE), the procedure is the same with the following exceptions:

- Begin the print file at the address one greater than LAST LOGICAL.

- Do not change NEXT LOGICAL.

- Change LAST LOGICAL to the address of the last sector to be printed.

- The file cannot wrap beyond NEXT LOGICAL. It is full when LAST LOGICAL is one sector behind NEXT LOGICAL.

- The Contention Table should be tested for availability of the SYSFLE before writing in it.

In all cases, the System Writer allows file wrap-around. FIRST PHYSICAL and LAST PHYSICAL are absolute file limits. LAST LOGICAL is the extend of the actual file to be printed.

SYSWTR reads all five sectors of the WTRCTL file. It finds the highest priority print file and reads its header sector. SYSWTR then prints the report and reads the header sector again. SYSWTR test 'last logical' to see if more sectors have been added, and writes out an updated header sector.

If more sectors are added, SYSWTR prints the sectors and reads the header sector again. When all sectors have been printed, SYSWTR writes out an updated header sector and reads all five WTRCTL sectors. It moves spaces to the header file pointer just printed, and writes all five WRTCTL sectors to disc. SYSWTR resets the program flags and reads all five WTRCTL sectors into core again. It then finds the highest priority print file and repeats this process until all files have been printed.

IF SYSWTR is interrupted, a priority of R is placed in the WRRCTL field for the file currently being processed, and the count of records already printed is saved in the header sector for that file.

This record count is saved in positions 25-31 (the six positions following the last physical field).

User requirements to place data on disc for printing:

Header Format (First Pool Record)

```
      :      :      :      :      :
      :      :      :      :      :
      :      :      :      :      Record
      :      :      :      :      Last   Count
      :      :      :      :      First  Physical
      :      :      :      :      Last   Physical
NEXT  Logical
      Logical
```

Print Record Format

```
      : :      :
      : :      :
      : :      : Up to 132 Position Print Line Data
      : :      : (Continued on Next Sector if Over
      : :      : 95 Positions)
      : :      :
      : :      :
      : : Print Line Length
      : :
      : Standard IOC Device Code
      :
      : Carriage or Tab Control
      : (0-9 = Advance N Lines Before Printing)
      : (V = Vertical Tab)
      : (L = Advance to Top of Form)
      : (F = Forms CHANGE)
```

Print Control File

```
      :
      :
      : Print Pool Header Address
      :
      : Priority (A through Z)
```

Before writing in WTRCTL or SYSFLE pools, the user must test the Contention Table for the availability of the file and claim the file until the write is completed.

SCA COMMON BUFFER

EXT400 prints records from the SCA common buffer. EXT400 empties the SCA buffer in common directly to the printer and handles up to 800 character buffers. REPRNT prints from the beginning address to the ending address specified by the operator.

All print lines written by MDTS System Writer are horizontally tabbed. When three or more spaces are encountered, the horizontal tab character is inserted followed by a one position numeric digit noting the number of spaces to be inserted. Under most circumstances, this cuts the size of a print line to under 95 characters and reduces the size of disc print files to about half the size otherwise required. It also reduces communications time on transmitted print images by approximately one-third. It is recommended that horizontal tabbing be performed by all users. However, if horizontal tabbing is not used, the MDTS System Writer handles the print file.

There is one communications transmission layout. It can be up to 800 characters long and contains type three file layouts framed by an STX and ETB or ETX.

Parameters

WTRCTL	This parameter is used to specify the address and priority code of all disc files to be printed.
HEADER	This parameter is used to specify all limits of the disc print file (it is the first sector of a print file).
PRINT	This parameter is used to specify control information and/or up to 95 print image characters.
SECOND PRINT	This parameter is used to specify up to 37 print image characters if the print image exceeds 95 characters.

The operator may toggle the service request switch to terminate the function. The operator may enter data at the end of a session to terminate the function.

Function Usage

Reports are generally spooled to disc for background listing on the printer using the System Writer function.

The function will print all or selected segments of sectors of a file. The following is a description of the sequence of operations:

The monitor must be present. Overlay Area Three is used.

The operator toggles the service request switch to request service.

The operator response is:

```
REPRNT(ENT)header (ENT)furst  (ENT)last  (ENT)
              (KEY)address(KEY)print  (KEY)print (KEY)
                        address      address
```

Parameters

header address This parameter is used to specify the address of the header sector of the file to be printed.

first print address This parameter is used to specify the address of the sector at which reprinting begins.

last print address This parameter is used to specify the address of the last sector to print or 'ALL' which stops after printing the sector addressed in the last logical field of the print file header sector. The following is a description of the sequence of operations:

This module supports the System Writer. It is optional.

The operator may terminate the function by toggling the service request switch. The operator may terminate the function by data entry.

RE The (Restart Entries) parameter is used to allow the entry of new parameters. Only a "GO", "H", or "RE" entry is allowable following a service

request interrupt. This control is used after a service request interrupt.

- H This parameter is used to cancel any previously entered parameters. This parameter is optional.

REPRNT does not change the WTRCTL file or any header sectors. If REPRNT is interrupted, it leaves in an orderly fashion, and all parameters must be entered when REPRNT is executed again. A message is provided at termination.

Function Usage

Additional copies of reports may be required. An unattended production of reports could experience unusual events such as a printer ribbon failure, thereby requiring a reprinting condition.

TRANS3

The TRANS utility performs a file update function similar to that found in the transmission of transaction data to the host computer in the MDTs software. A normal run of TRANS (WRITE option) records all data for the next unprocessed day on magnetic tape and marks that day as processed. An optional run of TRANS (REWRITE option) records the data from operator-specified pictures that have been previously processed and subsequently bypasses the "mark day as processed" logic. The desired option is selected by the operator at run time. The following is a description of the sequence of operations:

The monitor must be present. Overlay Area Three is used.

The operator toggles the service request switch to request service.

The operator response is "TRANS3".

Volume Label Creation

Volume labels for magnetic tapes are created with a utility separate from the data processing software. The ability to create a volume label is provided as an option with the TRANS utility. A standard volume label is required and must be created if it does not exist. Existing volume labels are bypassed at the operator's request.

Dates

Header and trailer labels require a date for tape operations. The creation date is normally the date associated with the data, not necessarily the run date. The expiration date field in the labels is not used by TRANS. During a REWRITE option, a date is required for the first picture only.

Date Set Identifier

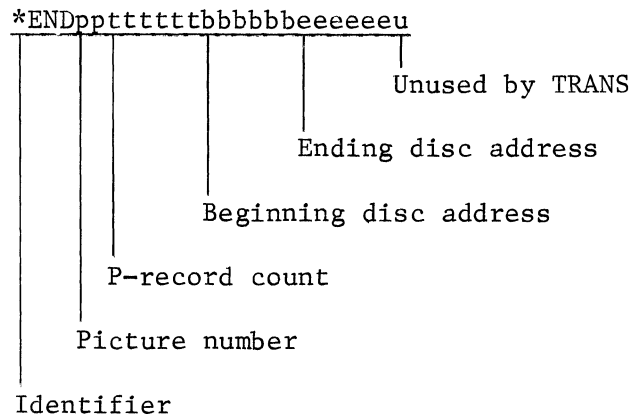
Standard labeling conventions require a Data Set Identifier in the header and trailers. The first four digits of this 17 character field must be the store number. This field is later inserted in each register identification as it is retrieved from disc.

Day Concept

The TRANS utility always begins with the next data picture to be processed. The day number associated with this picture is assigned as the day to be processed, and only the pictures associated with this day are allowed on the tape. If a day change occurs indicating more days on the disc, the operator is notified, the output tape is closed, and the day marked as sent on the disc. A new tape is then mounted and the TRANS utility repeated for the remaining days. The TRANS utility will not process the current picture.

*END Message

An *END message is generated for each picture written to tape. It is always the only record in a block. Where applicable, the *END message fields are the same as those encountered in the MDTs Communications Conventions.



Multi-Reel Files

If an end of reel condition is sensed prior to the end of the data set on the disc, normal end of column logic is executed. The operator dismounts the filled tape, mounts a new one, and proceeds with the tape opening procedure including the volume label creation option. Multiple files on a single reel are not allowed.

Tape Format

The magnetic tape or tapes created are entirely in ANSI format utilizing standard volume labels, header records and trailer records.

Various versions of this utility program are available: On-line operation with the SIPOS 4.1 Monitor, stand-alone operation using partition core, and stand-alone operation using common core.

A message is provided at normal termination.

Function Usage

Use this TRANS series of utility programs to transfer data from the TRFILE to magnetic tape for other processing. The TRFILE pointers in the system status sectors are updated appropriately.

COMMUNICATIONS-INITIATED FUNCTIONS

CDUMPR Snap Shot Memory Display

EXT400 Print Image Disc Records are printed on the Workstation or the Line Printer

EXT720 Temporary Storage Program is filed, refiled or deleted from the Permanent Storage File.

CDUMPR

The interface between the Remote Partition and the Monitor consists of requesting signals from the Monitor and passing parameters to the Monitor.

The display routines then take control to pass the required memory data to Partition Zero for printing. At the end of the display session, the Remote Partition is returned to a specified location and the Monitor is returned to normal operation.

This program is required if communications are being used, and is also available for system development. This program is used

to provide a Remote Partition with the ability to display selected portions of its memory or of Common memory. The following is a description of the sequence of operations:

The Monitor must be present.

The on-line overlay area is required. Overlay Area Three is unused.

Automatic Call for service.

Initiation of the display module is from a Remote Partition.

The availability of Partition Zero for a load request is established by testing the first position of the Common Request Table for a space. If no space is available, the display effort should be abandoned.

The availability of the shared request name/address field is established by testing its first position for a space. If no space is available, the display effort should be abandoned or a controlled wait attempted for a later request.

Request a function load into Partition Zero by placing an "L" in the first position of the Common Request Table.

Request the display function by placing the function name. ["MONA %CDUMPR" (exactly 12 characters) in the shared request name/address.

Protect the system in the event of an ACU check by flagging the Contention Tables core display flags with the character "D". Insure an appropriate recovery address at location zero.

Wait for the Monitor to respond to the request in the first position of the Common Request field. A response of "F" indicates a failure to complete the request. Replace the "G" with a space and abandon the display attempt. A response of "F" indicates a ready state to set four parameters in the first ten positions of the on-line overlay area. At least 200 partition switches may be expected while CDUMPR is loading.

Return the Monitor request area to a space and then branch to an instruction immediately following the parameters just set at on-line overlay plus ten.

The memory display is on the SYSLST device assigned to the system by the DMF assign function.

The inhibit switch (set mode) instruction is not used by this program.

The automatic Calling Program Response is:

CDUMPR	Parameter 1, Parameter 2, Parameter 3, Parameter 4
Parameter 1	Two digits for the thousands and hundreds digits of the location where the display is to begin.
Parameter 2	Two digits for the thousands and hundreds digits of the location where the display is to end. The display will be up to but not including this address. A ":0" is set to signal the end of a 10K core program.
Parameter 3	Two characters for the location of the memory to be displayed. If Partition memory, it is the requesting partition number. If Common Core, it is "CO".
Parameter 4	The four character address of the desired restart instruction for the Remote Partition.

The initialization to call the function is covered in the previous discussion under Automatic Call for Service. There are no other (calls, abnormal conditions, or explanations) requiring discussion.

EXT400

The Remote Partition interfaces with the System Monitor to request location of a version of the System Writer function and to execute that function in order to print image records from disc onto the Workstation or Line Printer. The following is a description of the sequence of operations:

The monitor must be present.

The Partition Zero overlay area is used.

Automatic call for service.

Automatic calling program. Response is EXT400 (no parameters).

The reference operator is initialized. Functions (extended) SYSWTR for requirements information to place data on disc for later printing.

Operator decision exit by data entry is provided. Function completed termination message is provided.

Function USAGE

This program is required in a communications environment, when the System Writer function is desired.

EXT720

A program may be entered into a temporary holding file. A decision to file as an Add, Refile, or Delete may be accomplished with this function. The following is a description of the sequence of operations:

The Monitor must be present.

Automatic call for service.

Automatic calling program.

Response is EXT720 (no parameters)

The temporary file is a fixed allocation file large enough to contain the longest possible object program within the MDTS System. Other types of files may be updated through the use of the temporary file, as long as the file limits are not exceeded. A test is performed on the receiving file to determine whether the file can be expanded by the number of sectors required. If the file is unable to be expanded, no attempt should be made to file or refile the program or data.

Disposition codes:

The specified file is to be added to the MDTS System in the pool specified in the *PGM record.

The specified file is to be replaced (refiled) in the MDTS System in the pool specified in the *PGM record.

The specified file is to be deleted from the MDTS System from the pool specified by the *PGM record.

A normal completion message is given.

Function Usage

This program is required in a communications environment when the Remote Program Update Function is desired.

This program is used to perform one of three functions as specified by the code in position 18 of the first record of the temporary file, based upon the data in that file. The first record may contain the pool name, the file name, the count of the number of records in the temporary file, and the disposition code referenced in the previous discussion.

TABLE 1-1. MONITOR FUNCTION INTERFACE

MONITOR		OPERATOR TOGGLE SERVICE REQUEST SWITCH-CANCEL(?)	REMOTE REQUEST SERVICE-CANCEL(?)	OPERATOR DECISION-EXIT- HALT-DATA ENTRY(?)	NORMAL COMPLETION EXIT MESSAGE GIVEN(?)	OVERLAY AREAS USED. MONITOR ON- 2 3 LINE R = REQUIRED		
B A S I C	(MSQ) PMSGQ	NO		YES	YES	R		R
	(EDY) ENDAY	YES		NO	YES	R		R
	(CDP) CDUMP	YES		NO	NO	R		R
	(DDP) DDUMP	YES	YES	NO	YES	R		R
	(STA) STATE	YES		NO	YES	R		R
	(STS) STATUS	YES		NO	NO	R		
	(SYP) SYSUP	NO		NO	NO	R		
	(SDN) SYSDN	YES		YES	YES	R		R
	(CPH) CPATCH	NO		YES	NO	R		R
	(TRC) TRACE	NO	YES	YES	NO		R	
	(NAF) NAFUD	NO		YES	YES		R	
	(SWT) SYSWTR	YES		YES	NO		R	
	(RPT) REPRNT	YES	YES	NO	YES		R	
	TRANS3	NO		NO	YES		R	
SCA COMMUNI- CATION								
(CDR) CDUMPR		NO			NO	R		R
EXT 400(EXT)		NO		YES	YES		R	
EXT 720(EXT)		NO			YES		R	

MONITOR FUNCTION MESSAGE DIRECTORY

All alphabetic message identifiers used by the System Monitor Function programs are contained in the following table in the alphabetic sequence of the identifiers.

MODULE IDENTIFIER	MODULE NAME	MODULE DESCRIPTION	SOURCE OF MESSAGE
CDP	(CDUMP)	CORE DUMP PROGRAM - OPERATOR INITIATED.	C
CDR	(CDUMPR)	CORE DUMP PROGRAM - REMOTELY INITIATED.	C
CPH	(CPATCH)	CORE PATCH PROGRAM - MONITOR FUNCTION.	C
DDP	(DDUMP)	DISC DUMP PROGRAM - MONITOR FUNCTION.	C
EDY	(ENDAY)	ENDAY FUNCTION.	C
EXT	(EXTXXX)	EXTENDED SCA FUNCTION TEXT PROGRAMS. (XXX = THE EXTENDED SCA FUNCTION TEXT PROGRAM IDENTIFIER.)	C
MSQ	(PMSGQ)	MESSAGE QUEUE PRINTED FROM DISC.	C
NAF	(NAFUD)	CREDIT FILE UPDATE FROM CONSOLE.	C
RPT	(REPRNT)	REPORT REPRINTER.	C
SDN	(SYSDN)	SYSDN FUNCTION.	C
STA	(STATE)	STATE FUNCTION.	C
STS	(STATUS)	STATUS FUNCTION.	C
SWT	(SYSWTR)	WRITE REPORTS ON PRINTER.	C
SYP	(SYSUP)	SYSUP FUNCTION.	C
TRC	(TRACE)	TRACE FUNCTION.	C

NOTE: C = CORE ONLY MESSAGES.
CD = CORE WITH DISC TEXT APPENDED.

Section 2
SYSTEM LOADING

MDTS

MDTSA

MDTSH

MDTSM

SYSTEM LOADING

Loading the SIPOS* 4.1 System into processor memory may result from the utilization of the automatic loading facilities provided (MDTSA, MDTSH, or MDTSM), or through a loading facility (MDTS), that will allow the operator to specify predefined parameters on the console.

MDTS

The MDTS loading program permits the operator to initiate and execute a program load utilizing each option per operator specification. This program builds the system loading options table that is required by the Monitor. When the loading option table has been constructed according to the operator's specifications, the program locates, loads and executes the Monitor.

Use

The operator may use the available parameters to restore selected portions of the system, in addition to initializing and loading individual partitions as required.

The following is an example of an initial system load utilizing the MDTS loading program:

Secure a LOAD condition on the Model 70 Workstation and initiate the Conversational Loader (ENTER bar):

A)ENTER PROGRAM NAME.

Clear system memory; enter:

SYSCLR

Depress ENTER bar; system response:

A)ENTER PROGRAM NAME.

Operator enters desired loading program:

MDTS

Depress ENTER bar; program response:

I)MD To1 MDTS PROGRAM F010001.
S)MD To2 MDTS RESERVED COMMON NOT VALID.
A)MD To3 DO YOU WANT INSTRUCTIONS, Y/N?

The operator should note the "Severe" (S) Message Type code occurs in response to the loading program. Since the system was completely cleared prior to loading, the Low Common area is not present (valid). (See MESSAGE MANUAL.)

Loading Options

The operator "Action" (A) message inquires if the operator wishes information regarding available loading options. Operator response is either a Y or N.

Operator response:

Y

A positive response (or any response other than N) will cause the following instructions to be printed:

Program response:

YOU HAVE THREE LOADING OPTIONS WITH THIS PROGRAM.

1. MONITOR ONLY, "MONITOR"
2. MONITOR AND HIGH COMMON, "HIGH COM"
3. MONITOR AND ALL OF COMMON, "ALL COM"

OPTION 1 SHOULD BE SELECTED TO RESTORE THE PARTITION ZERO MONITOR ONLY WITHOUT ALTERING COMMON. YOU WILL CHOOSE THIS OPTION IF YOU HAVE INADVERTANTLY PLACED PARTITION ZERO IN A LOAD CONDITION. THIS OPTION IS SELECTED BY KEYING IN "MONITOR".

OPTION 2 SHOULD BE SELECTED TO RESTORE THE PARTITION ZERO MONITOR AND THE PORTION OF COMMON WHICH BRINGS THE TERMINALS ON-LINE. YOU WILL CHOOSE THIS OPTION IF AN EARLIER OFF-LINE PROGRAM FAILED TO RESTORE THESE AREAS. THIS OPTION IS SELECTED BY KEYING IN "HIGH COM".

OPTION 3 SHOULD BE SELECTED TO RESTORE THE PARTITION ZERO MONITOR AND ALL OF COMMON INCLUDING THE PORTION RESERVED FOR MDTs. YOU WILL CHOOSE THIS OPTION AT SYSTEM INITIALIZATION TIME AND AT ANY OTHER TIME YOU ARE CERTAIN THAT MDTs RESERVED COMMON IS NOT VALID. THIS OPTION IS SELECTED BY KEYING IN "ALL COM".

TERMINATE YOUR LOADING OPTION CHOICE WITH THE "ENTER" KEY IF IT IS VALID OR THE "ERROR" KEY IF IT IS NOT.

A)MDT04 ENTER LOADING OPTION.

If the operator responds with N, the program will bypass the instructions and immediately print the ENTER LOADING OPTION message:

Operator response:

ALL COM

Depress ENTER bar; program response:

```

I)LCM01  MDTs RESERVED COMMON LOADING COMPLETE.
W)HCM06  NO TRANSMISSION RECORDED SINCE LAST FILE OPEN/CLOSE.
I)HCM07  TRANSACTION FILE OPENED AS FOLLOWS:
          CURRENT PICTURE 38 CURRENT DAY 16 NEXT PICTURE TO
          TRANSMIT 40
I)HCM04  HIGH COMMON LOADING COMPLETE.
I)MON07  MDTs MONITOR LOADING COMPLETE.

```

The messages displayed confirm that all the desired options have been loaded. The transaction file is now open with status information printed concerning the current picture and the current day.

The system picture is a pair of disc sectors that contain the logical day number, the disc address where the next transaction for this day will be written, and the count of the number of transactions recorded.

Monitor Functions

Since the Monitor is now present, the operator may initiate Monitor functions by securing a service request on the console. The Monitor function STATUS is presented to illustrate the internal status according to what has been loaded. The use of STATUS is optional during system loading.

The operator secures a service request and the System Monitor responds with:

```
A)MON03  ENTER MONITOR FUNCTION.
```

Operator response:

```
STATUS
```

Depress ENTER bar; program response:

```

I)STSO1  SYSTEM INTERNAL STATUS.
          0.....5.....0.....5....
COMSTA (4
COMREQ (
CONTRL (
PGMLDD (
LINSTA (9)
NXTADR (070736)
CURPIC (38)
DAYNRS (16)
NXPIC (40)
NXTDAY (10)

```

The data in TABLE 2-1 shows the Common fields with their internal labels as identifiers. For example, the CONSTA field is blank with

the exception of a Status Code 4, which indicates that the Monitor Partition (Partition Zero) is performing a low priority function. In this example, the code implies that Partition Zero has been successfully loaded and is executing the Monitor function, STATUS. The information printed in the LINSTA field to the NXTDAY field should coincide with the information previously presented during HICOM loading.

TABLE 2-1. COMMON STATUS TABLE

BLANK Ø	A blank (space) in any position will define a non-existent partition.
Ø	Terminal Partition, no terminals currently active.
1	Terminal Partition, some terminals active.
2	SCA Partition.
3	Monitor Partition, Basic Monitor only.
4	Monitor Partition, low priority special function in progress.
5	Monitor Partition, high priority special function in progress.
6	Remote Partition substitute to Monitor.
7	Clock Partition.
8	Reserved.
9	Partition in an initialized state waiting for a load request.
ALPHABETIC	Non-MDTS Partition

PINTL (Partition Initialization)

The PINTL program is used to allow operator specification of Remote Partitions to be initialized. It builds a table of those partitions to be initialized, then locates, loads and executes the REMINT program which performs the actual initialization.

Service Request; Monitor response:

A)MON03 ENTER MONITOR FUNCTION.

Operator response:

PINTL

Depress ENTER bar; program response:

A)PTL02 ENTER PINTL OPTION.

PINTL Parameters

The PINTL options are as follows:

I=USE pool.file

This parameter is used to cause the first record of the file specified to be used for the initialization of parameters. The first five characters of this option must be "I=USE". The sixth character must be blank. The pool.file specification must begin in character seven. It cannot contain imbedded blanks. Pool and file must be separated by a decimal point. Pool and file names must conform to DMF rules. Omission of a pool causes default to SYSPOL. The last character of the file name must be followed by a blank. All remaining characters in the record are ignored.

I=xx,xx,...,xx

This parameter is used to cause the partitions in the list to be initialized. The first two characters of this option must be "I=". The partition number list must begin in character three. It may not contain imbedded blanks. Each partition number may be one or two digits long. Only partition one through nineteen may be initialized. Partition numbers are separated by commas. The last partition number must be followed by a blank. All remaining characters in the record are ignored.

I=ALL

This parameter is used to cause all existing partitions to be initialized and a log printed of those partitions not existing or not functioning. The first five characters of this option must be "I=ALL". All remaining characters in the record are ignored.

I=RE

This is a control parameter to signal an operator's wish to erase all previous partition numbers and restart. The first four characters of this option must be "I=RE". All remaining characters in the record are ignored.

This is a control parameter to signal an operator's wish to halt the initialization process and return to the Monitor. The first three characters of this option must be "I=H". All remaining characters in the record are ignored.

INTL Usage

Operator response:

Depress ENTER bar; program response:

In this example, the PINTL program has responded with two messages pertaining to an abnormality in a partition. The program has made repeated attempts to initialize the existing partition with no response. As a result, the program has forced the partition into an idle state. This partition cannot be utilized in the system. Singer support personnel should be notified of this condition.

```

A) MONO3 ENTER MONITOR FUNCTION.
STATUS
I) STS01 SYSTEM INTERNAL STATUS.
      0.....5.....0.....5.....
COMSTA (4 9999999999999999 9)
COMREQ ( )
CONTRL ( )
PGLDLD ( )

```

The COMSTA field (Status Code 9), indicates that all Remote Partitions (except Idle Partition), have been initialized and are waiting for a load request.

PLOAD (Terminal Partition Loading)

The program PLOAD is used to allow operator specification of Remote Partitions to be loaded. The program locates the pre-defined program name and effects program loading through the use of the Common Request Table.

Service Request; Monitor response:

A)MON03 ENTER MONITOR FUNCTION.

Operator response:

PLOAD

Depress ENTER bar; program response:

A)PL003 ENTER PLOAD OPTION.

PLOAD Parameters

The PLOAD options are as follows:

L=USE pool.file

This parameter is used to cause the file specified to be accessed for all loading parameters. The first five characters of this option must be "L=USE". The sixth character must be blank. The pool.file specification must begin in character seven. It cannot contain imbedded blanks. Pool and file names must be separated by a decimal point. Pool and file names must conform to DMF rules. Omission of a pool name causes default to SYSPOL. The last character of the file name must be followed by a blank. All remaining characters in the record are ignored.

Each record in the file is displayed on the console and then edited as if it had been entered by the operator. Each valid record is used immediately after successful editing. Invalid records are reported showing the error and reporting the disposition. The file search logically ends when the six slashes are bound in positions 94 to 100 of a record.

L=pool.file xx,xx,...,xx

This parameter is used to cause the program specified to be loaded into the partitions in the list. The first two characters must be "L=". The pool.file specification must begin in position three and follow the rules described in option one except that the characters following the mandatory single blank at the end of the file name are

edited as partition numbers. Each partition number may be one or two digits long. It must be between one and nineteen inclusive. Partition numbers are separated by commas. The partition number list may not contain imbedded blanks. The last partition number must be followed by a blank. All remaining characters in the record are ignored.

Each valid record is used immediately after successful editing. Errors are reported showing the disposition of the record. At the end of the use of each record, the program returns to the operator to allow specification of additional programs and partitions or the depression of any control key which signifies end.

L=pool.file ALL

This parameter is used to cause the program specified to be loaded into all existing and responding partitions. The record must conform to the rules described in the previous option, except that the partition number list is replaced by the word, "ALL". All remaining characters in the record are ignored.

After successful processing of this record, the program returns to the operator for additional commands.

Depression of a control key on the Model 70 Workstation or the Model 80 CRT allows the operator to signal an end of operator entries and directs the program to return to the Monitor.

In this example, the "L=pool.file xx,xx.....xx" option is presented, utilizing the Point-of-Sale terminal programs residing in MONA pool.

Operator response:

L=MONA_.TRMNL 1,2,4,5,6,7,8,9,10,11,12,13,14,15,16,17,19

Depress ENTER bar; programs response:

A)PLD03 ENTER PLOAD OPTION.

A program response indicates that the terminal partitions requested by the operator have been successfully loaded. The terminal partitions are now interfacing with the terminal servicing routines in High Common.

Optional Loading

In this example, the remaining initialized partition will be loaded with the optional communications programs (SCA).

Operator response:

L=SCA.CAOS 3

Depress ENTER bar; program response:

A)PLD03 ENTER PLOAD OPTION.

All available Remote Partitions have been loaded. The operator signals the termination of the PLOAD program by depression of any control key on the console device.

Program response:

I)PLD05 PLOAD COMPLETED.

I)SCA07 CAOS IDLE - COMMUNICATIONS INACTIVE.

In this example, a final STATUS is presented to illustrate the internal system status after completion of initial system loading.

A)MON03 ENTER MONITOR FUNCTION.

STATUS

I)ST01 SYSTEM INTERNAL STATUS.

0....5....0....5....

COMSTA (400200010000000000 0)

COMREQ ()

CONTRL (1)

PGMLD (13549)

LINSTA (9)

NXTADR (070739)

CURPIC (38)

DAYNRS (16)

NXPIC (40)

NXTDAY (10)

The STATUS program indicates that all of the SIPOS* 4.1 programs have been loaded. Partition Zero is present (Status Code 4); SCA is present (Status Code 2); and all requested terminal partitions are loaded with no Point-of-Sale terminal activity at present (Status Code 0). If a STATUS is performed during the selling day, a Status Code 1 will be present for remote terminal partitions with active Point-of-Sale terminals.

MDTSA

The automatic loading program MDTSA (MDTS-ALL) depends on previously defined "USE" parameter files for location of its programs. The SIPOS* 4.1 programs are located on, and retrieved from a resident disc pack and loaded in the proper areas of core memory automatically. The program MDTSA will load all of the SIPOS* 4.1 programs.

SYSTEM LOADING

Clear system, enter MDTSA:

A)ENTER PROGRAM NAME.
SYSCLR

A)ENTER PROGRAM NAME.
MDTSA

Unless an abnormal condition occurs during the load function, operator intervention is not required from this point.

```
I)MDP01  MDTs PROGRAM F010001.
S)MDP02  MDTs RESERVED COMMON NOT VALID.
I)LCM01  MDTs RESERVED COMMON LOADING COMPLETE.
W)HCM06  NO TRANSMISSION RECORDED SINCE LAST FILE OPEN/CLOSE.
I)HCM07  TRANSACTION FILE OPENED AS FOLLOWS:
          CURRENT PICTURE 38 CURRENT DAY 16 NEXT PICTURE TO
          TRANSMIT 40
I)HCM04  HIGH COMMON LOADING COMPLETE.
I)AUI01  PARTITION INITIALIZA TION IN PROGRESS.
```

The MDTSA program initializes and loads remote partitions automatically via the program-initiated AUTOI and AUTOL programs. These programs access the desired parameters from a pre-defined default "USE FILE". The AUTOI and AUTOL programs are presented as a distinction from the operator-initiated usage of PINTL and PLOAD (MDTS loading program).

```
I=5,6,7,8,9,10,11,12,13,14,15,16,17,18,19
S)INT01  NO RESPONSE FROM REMO TE PARTITION.
W)INT04  PARTITION 18 HAS BEEN IDLED.
I)INT03  REMOTE PARTITION INITIALIZA TION COMPLETED.
I)AUL01  REMOTE PARTITIONS BEING LOADED.
L=SCA.CAOS 19
L=MONA_.TRMNLs 5,6,7,8,9,10,11,12,13,14,15,16,17,18
W)AUL07  REMO TE PARTITION 18 WILL NOT LOAD.
I)AUL05  AUTOL COMPLETED.
I)MON07  MDTs MONITOR LOADING COMPLETE.
I)SCA07  CAOS IDLE - COMMUN ICATIONS INACT IVE.
```

PARTIAL AUTOMATIC LOADING

The two remaining system loading programs, MDTSH and MDTSM are also automatic loaders that will reload High Common and the Monitor.

The High Common area is primarily involved in Point-of-Sale terminal servicing. Repeated Point-of-Sale terminal "time-outs" from all areas may indicate an abnormality in the High Common area. The failure of an optional off-line user program to completely restore the system to normal may require restoration of the High Common area.

Restoration of the Monitor may become evident by a LOAD/LOCAL status on the console device or a failure to respond to a service request initiated by the operator. A user program failure to restore the system to normal may also be responsible for an inactive Monitor.

Default Capabilities

A function of the MDTSH and MDTSM loading programs is to check the complete status of the system during execution. If, during partial restoration, any segment of the system is found to be in an abnormal state, the program will default to the MDTSA loading program.

The following two examples are presented to illustrate the default capability of the MDTSH and MDTSM partial loading programs.

MDTSH

A)ENTER PROGRAM NAME.
MDTSH

```

I)MDP01  MDTs PROGRAM F010001.
S)MDP02  MDTs RESERVED COMMON NOT VALID.
I)LCM01  MDTs RESERVED COMMON LOADING COMPLETE.
W)HCM06  NO TRANSMISSION RECORDED SINCE LAST FILE OPEN/CLOSE.
I)HCM07  TRANSACTION FILE OPENED AS FOLLOWS:
          CURRENT PICTURE 38 CURRENT DAY 16 NEXT PICTURE TO TRANSMIT 40
I)HCM04  HIGH COMMON LOADING COMPLETE.
I)AUI01  PARTITION INITIALIZATION IN PROGRESS.
I=5,6,7,8,9,10,11,12,13,14,15,16,17,18,19
S)INT01  NO RESPONSE FROM REMOTE PARTITION.
W)INT04  PARTITION 18 HAS BEEN IDLED.
I)INT03  REMOTE PARTITION INITIALIZATION COMPLETED.
I)AUL01  REMOTE PARTITIONS BEING LOADED.
L=SCA,CAOS 19
L=MONA_ . RMNLS 5,6,7,8,9,10,11,12,13,14,15,16,17,18
W)AUL07  REMOTE PARTITION 18 WILL NOT LOAD.
I)AUL05  AUTOL COMPLETED.
I)MON07  MDTs MONITOR LOADING COMPLETE.
I)SCA07  CAOS IDLE - COMMUNICATIONS INACTIVE.

```

SYSTEM LOADING

MDTSM

A)ENTER PROGRAM NAME.
MDTSM

I)MDP01 MDTs PROGRAM F010001.
S)MDP02 MDTs RESERVED COMMON NOT VALID.
I)LCM01 MDTs RESERVED COMMON LOADING COMPLETE.
W)HCM06 NO TRANSMISSION RECORDED SINCE LAST FILE OPEN/CLOSE.
I)HCM07 TRANSACTION FILE OPENED AS FOLLOWS:
CURRENT PICTURE 38 CURRENT DAY 16 NEXT PICTURE TO TRANSMIT 40
I)HCM04 HIGH COMMON LOADING COMPLETE.
I)AUI01 PARTITION INITIALIZATION IN PROGRESS.
I=5,6,7,8,9,10,11,12,13,14,15,16,17,18,19
S)INT01 NO RESPONSE FROM REMOTE PARTITION.
W)INT04 PARTITION 18 HAS BEEN IDLED.
I)INT03 REMOTE PARTITION INITIALIZATION COMPLETED.
I)AUL01 REMOTE PARTITIONS BEING LOADED.
L=SCA.CAOS 19
L=MONA.TRMNLS 5,6,7,8,9,10,11,12,13,14,15,16,17,18
W)AUL07 REMOTE PARTITION 18 WILL NOT LOAD.
I)AUL05 AUTOL COMPLETED.
I)MON07 MDTs MONITOR LOADING COMPLETE.
I)SCA07 CAOS IDLE - COMMUNICATIONS INACTIVE.

ERROR PROCEDURES

The SIPOS* 4.1 MESSAGE MANUAL that supplements this document is a mandatory operator tool. The manual contains all diagnostic and informative messages that are generated by SIPOS* 4.1.

The SIPOS* 4.1 IN-STORE OPERATOR MANUAL also provides information pertaining to MESSAGE MANUAL usage and error conditions that may be encountered on a hardware basis.

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